
HOW TO CONTROL AIRLINE ROUTES FROM THE SUPPLY SIDE: THE CASE OF TAP

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ABSTRACT

Competition in the European airline industry is currently fierce in the face of depressed demand conditions, and in the wake of privatizations and liberalization. The Portuguese flag carrier, TAP Air Portugal, operates within this environment. It is a medium sized carrier that was part of the defunct Qualiflyer Group alliance and has recently joined the Star Alliance. It controls more than 50% of the air market between Europe and Brazil and Europe and Angola. Nevertheless, it has been experiencing financial losses. One reason for this is that, following the reasoning of Ronald Coase (1946), it is difficult for any company with decreasing average costs to recover full costs in a highly competitive market. One way of approaching the problem is to establish quasi-monopoly power and airlines have done this through such things as frequent flyer programs and hub-and-spoke operations. Other airlines, notably charter carriers, have sought to adjust capacity and services to meet an anticipated cash flow. In practice, many have used a combination of measures with mixed success. This paper focuses on how TAP has responded to changing conditions by adjusting its supply-side activities in terms of restructuring its network to maximize potential revenues.

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INTRODUCTION

Over the past decade competition between airlines in Europe has been fierce. There have been important structural changes within the industry, and within the actors that participate in it. Some older companies such as Sabena and Swissair could not meet the challenges, while others such as Air France and KLM have sought some respite in merging. At the other extreme, several of the no-frill carriers such as easyJet and Ryanair have earned steady profits and subsumed some of their competitors. The changing networks of services being offered by air carriers in Europe has inevitable implications for spatial economic development and impacts on key industries such as tourism. Here we examine changes that have taken place in the network of TAP Air Portugal.

TAP is medium sized European carrier with about 38 aircraft in its fleet and is entirely state owned.¹ It is the primary airline in one of the European Union's peripheral areas. It was for awhile a member of the now defunct Swissair led Qualiflyer Group alliance and it joined the Star Alliance in 2004. Its financial situation is poor with large losses being experienced, although in 2003 it did make a marginal operating profit (€12 million on a turnover of €1144 million, but embedded in the accounts was a one-time gain of €20 million from the sale of shares in French Telecom and a write-back for a tax court case in Brazil), the first in many years.² Despite this, in 2004 it sought a loan guarantee for €400 million from the Portuguese government.

A major location problem is that its main hub, Lisbon Airport, is located on the western extreme of Europe, away from the main economic growth centre of European Union and thus unsuited to be a major strategic hub. Portugal is a long thin country that is not ideal for domestic hubbing. However, external to Europe, TAP does control over 50% of the air transport market between Europe and Brazil, and between Europe and Angola. This is the result of the exploitation of bilateral government agreements on these markets, and the legacy of Portugal's colonial past.

There are a plethora of business models that have been applied to the airline industry. The concern here is with the strategy that TAP has adopted to improve its market position at a time when many other carriers of comparable size have found survival difficult. Public ownership obviously helps, although the advantage is now diminished, but the concern here is

¹ ICF/Button (2003) offers a categorization of European Union airlines.

² This is also after receiving \$1,100 million in restructuring grants in 1994 designed to allow the airline to become commercially viable.

with the structural changes that the company has made to reduce is long-standing cash outflows.

There is a basic problem encountered by firms in all industries that have committed costs (in this case a commitment to a scheduled service) and that has been recognized since the pioneering works of Edgeworth (1881), Coase (1946), Telser (1978), and others. In a fully competitive environment it is impossible to recover full costs in this situation of declining average cost. Full costs can only be recovered if either the concern receives a subsidy (and that, Coase correctly points out, is, irrespective of any distributional concerns, going to impose an excess efficiency burden elsewhere in the economy) or by somehow gaining a degree of market power and extracting economic rent from customers. TAP has in the past enjoyed state subsidies but these are no longer acceptable under EU legislation, and hence there has been the need for a re-examination of how costs may be recovered.

THE MARKET SETTING

The demonstration effects of the outcome of the U.S.'s 1978 Airline Deregulation Act experience stimulated changes elsewhere, although reforms in Europe tended to be more gradual, with a liberalized market within the European Economic Area akin to that of the U.S. domestic market only emerging in 1997. One reason for these more gradual changes was it mainly entailed reaching agreement on international air services between member states, rather than being an entirely internal matter as with the U.S. Countries such as France, Spain and Greece, where domestic aviation is relatively important, have a tradition of heavily regulating entry and fares, and this extended to their views of international aviation policy in Europe. There was also a pervasive philosophy that air transport serves public needs and that to ensure adequate provision and to avoid the economic distortions of monopoly power, state ownership best served the public interest. The problem was that these countries with well-entrenched systems of market controls, even if appreciative of the probable adverse implications of this for the overall welfare of the EU, still sought to cushion their airlines from competition.

Reform of the European internal airline market materialized as a series of steps. Initially these were largely ad hoc measures brought about by judicial interpretations of EU laws, but a series of *packages* of reform followed (Button, 2004). The First Package in 1987 made the existing bilateral air service agreements (ASAs) more flexible. The Second Package passed in 1990, alleviated capacity sharing and market access, and largely removed governments' role in setting airfares for international services within the EU. The Third Package, adopted in 1991, initiated a phased move that, by 1997, resulted in a regulatory framework similar to U.S. domestic

market. With the EU, it provided protection against national discrimination in airline licensing, eliminated capacity sharing, and allowed for a phased introduction of cabotage by 1997.

More recently, the EU Commission has switched its attention to the relationship between EU air transport policy and EU external relations (Mencik von Zebinsky, 1996). The traditional right of governments to negotiate bilateral air service agreements with non-EU states has been brought into question. The EU Commission was given permission in 1996 to negotiate on behalf of all EU countries on soft issues regarding aviation. The growth of strategic alliances, and the adoption by many member states of the Open Skies bilateral ASA with the U.S., more recently led in 2003 to the EU Commission gaining approval to negotiate transatlantic agreements on behalf of the EU with the intent of ultimately creating a single U.S./EU air transport market.

AIR CARRIERS' REACTION AT THE EUROPEAN LIBERALISATION

The outcome of all these reforms is that the competition faced by scheduled EU airlines has increased considerably. The latter stages of reforms also coincided with weak economic growth on the part of many European economies combined with exceptionally depressed air travel demand as the combined result of the September 2001 attacks on New York and Arlington, the Gulf conflict, and SARS. The emergence of no-frill carriers such as Ryanair at the lower end of the market have added to long standing competition from charter carriers, whilst in some markets there are now, generally subsidized, high-speed rail services.

The schedule airlines thus face a major problem. They commit to a schedule and then attempt to raise enough revenue to cover the costs involved; there is a fixed cost to be recovered. In a monopoly situation this poses few problems, capacity is limited and premium fares can be charged to recover costs, to earn an economic rent, or to enjoy inefficiency. But as Coase and others have pointed out, if there is competition, then airlines will compete fares down to short-run marginal costs.³ They may all thus enjoy a high load factor, but not recover sufficient revenues to meet their long run financial outlays.⁴

³ Similar problems can also emerge if the market is contestable—see Baumol, Panzar & Willig, 1982, for the conditions where this pertains.

⁴ Indeed, whilst virtually all the members of the Association of European Airlines were experiencing severe financial problems in 2003 their load factors had risen to an average of 73.4% from factors in the low 60% in the late 1990s when they were at least covering their operating costs.

To overcome this, some airlines received subsidies, but EU regulations now largely prevent this. An alternative is to adopt measures within competition laws that allow for the creation of some degree of market power, even if it is only short term.⁵

Non-pricing factors have been one way airlines have tried to create quasi-market power. This has included variations in in-flight and pre/post flight services, as well as scheduling and type of aircraft differentiation. More recently, there have been attempts, led by no-frill carriers, to unbundle services allowing customers to choose the portfolio of services they prefer. The difficulty is that ultimately Hotelling (1929) effects seem to exert themselves, with a trend towards meeting the preferences of the median passenger.

The advent of computer reservation systems (CRS) and the growth of travel agents provided an initial advantage to individual airlines over both competitors and customers. This allowed segmentation markets and dynamic price discrimination systems in the form of yield management.⁶ Legal actions on both sides of the Atlantic, however, limited the ability of airlines to exploit this, and now technology changes, especially the World Wide Web, have weakened any CRS effect that may exist.⁷

Retaining customer loyalty offers not only more revenue, but also a more predictable flow of revenue and the ability to adjust assets accordingly. Enhanced information systems allowed carriers to develop as part of their yield management strategy frequent flyer bonuses that went to their loyal customers. Frequent flyer loyalty has been dissipated, however, as it has become more difficult to reclaim miles—a fact one would anticipate from the basic premise that carriers seek to maximize payload at marginal cost. In some countries, such as Germany, frequent flier miles are also now taxed.

Mergers, franchises, and alliances have occurred with the aim of offering a superior service through such things as code-shares, common frequent flyer programs, common airport lounges, and more coordinated scheduling. Sheer size is sometimes seen as an advantage because of the S-curve effect—after a threshold is reached, the share of a market rises faster than an airline's (or alliance's) share of the capacity (Fruhan, 1972). The

⁵ Not all would agree that market power is needed but argue that there are gaming solutions (e.g., Levine, 2002) but this begs a number of questions and may ultimately revolve around how monopoly power is used rather than market power per se.

⁶ If the objective of the company was to simply recover costs then Ramsey Pricing would be adopted, but airlines are profit-maximizing entities and will seek pricing strategies that maximize rent.

⁷ It has also led to a very considerable decline in the number of travel agents in the U.S., although less so in Europe National Commission to Ensure Consumer Information and Choice in the Airline Industry (2002).

difficulty has been that airline companies vary considerably in their managerial styles and ethos, making it problematic to gain the full benefits of such unions.

Some European carriers have benefited from operating in multiple markets. They enjoy a degree of quasi-monopoly power in some markets because potential existing competitors are reluctant to compete fearing retaliation in other markets where they were the incumbent dominant carrier (Edwards, 1955). This possibility has been reduced as no-frill carriers have emerged with no legacy services to protect and thus with nothing to lose from piece-meal route entry.⁸

Vertical integration may also be used for cost recovery. The larger value chain reveals that while European airlines have been making large losses over the business cycle since liberalization, many upstream elements in the chain have not (Button, 2004). Airports, global distribution systems, airport services, airframe manufacturers, and others have consistently made relatively high returns. These upstream inputs operate in much less competitive conditions than the airlines. Attempts by airlines at capturing some of this upstream rent are increasing. In the U.S., airlines have combined to create Orbitz to compete with the four large global distribution systems, and Opodo is gradually growing as a European counterpart. Companies like Ryanair in the EU have sought to extract some of the economic rent enjoyed by airports.

There can also be other changes on the supply-side and airlines' route networks can also be used to extract rent for full cost recovery. The initial successes in the U.S. came when airlines adopted hub-and-spoke systems (Oum & Tretheway, 1990) that generated network economies of scope and density on the cost side and economies of market presence on the revenue side (Levine, 1987). A structure similar to the hub-and-spoke system existed in Europe prior to liberalization with bilateral ASAs restricting routes to the flag carrier of each country, and services to their main airport. Radial networks were thus common, but airlines were unable to fully exploit their potential benefits because of a lack of fare and capacity setting freedoms, and the frequent requirement to revenue pool. Post deregulation has seen only small changes, mainly because congestion limits flexibility.

Airlines, when confronted with losses, are also forced to look at their cost structures. While it may be correct that, in a highly competitive environment, falling average costs result in an inability to recover costs, the situation is exacerbated if costs are not being minimized. European airlines have seen the emergence of no-frill carriers that have removed some costs from their operations and significantly reduced others. The traditional

⁸ Dresner (2004) offers conformation of this theory in the context of the U.S. domestic airline market.

carriers have followed this example. In the end, however, if there is truly a decreasing costs issue then relative costs will only determine which carriers remain in the market, rather than the overall viability of the market.⁹

While the general pattern of events following the deregulation of air transport in Europe has been studied, and no-frill carriers have attracted some interest,¹⁰ analysis of individual European scheduled carriers is scant and what has been done has tended to look at those that failed to survive in the new competitive conditions (e.g., Suen, 2002). Equally, changes in network structures have only received limited attention.

TAP AIR PORTUGAL

TAP Air Portugal was founded in 1945 by the Portuguese government and was regarded as the extension of Portugal abroad and as a way to get closer of the rest of the Portuguese Empire. The first commercial European route was established in September 1946 and the first non-European route to Luanda in December. Seven years later TAP was privatized. Meanwhile the number of destinations increased without any defined overall strategy. The first route to Brazil was inaugurated in 1961, and 10 years later the first route to North America (Montreal.). In 1974 came the Portuguese revolution that ended several decades of dictatorship. A program of nationalization that included TAP Air Portugal in 1975 followed this.

The Portuguese government has recently sought to privatize TAP but a proposed purchase of 34% of the company in 2001 by Swissair fell through when the latter went bankrupt. A firmer legal commitment to gradually privatize was legislated in 2002, and a more modest proposal to sell 51% of its handling division emerged in 2003. This initially entailed the establishment of a new company—Serviços Portugueses de Handling (SPdH)—which began operations in October 2003 with the short term intent that TAP would retain a 94% stake and the private PGA-Portugália Airlines have 6%. TAP itself remains a publicly owned airline.

TAP is a small to medium sized carrier, with a fleet in 2004 of 38 airplanes.¹¹ It is a mixed carrier providing European and intercontinental services. It is essentially a carrier that focuses its attention on meeting the

⁹ As the American economist Frank Knight (1921) once said, "Costs merely register competing attractions."

¹⁰ For example there is a widely held view that no-frill carriers have been a universal success. In fact only Southwest in the U.S. and Ryanair in Europe have consistently made profits, and both enjoyed first-mover advantage. A significant number of no-frill carriers on both sides of the Atlantic have succumbed to commercial pressures.

¹¹ In terms of passengers, carried TAP ranked 13th amongst Association of European Airlines members and 12th by passenger kilometers.

demands of its regional market although this region extends geographically well beyond the boundaries of Portugal, although not throughout Europe (ICF & Button, 2003). TAP offers a more limited geographical coverage than the large global carriers such as British Airways or Lufthansa, although it does serve a range of major airports.¹² The carrier has a significant intercontinental coverage, but because of the bilateral ASA structure, and the large-scale movements of Portuguese nationals to specific markets, it focuses on intercontinental services to Brazil and Angola. Table 1 offers some current comparisons with a sample of the other legacy carriers in Europe.

Table 1. Number of passengers, passenger kilometers and available seat kilometers of selected EU carriers, 2003

Airline	Passengers (thousand)	Passenger kilometers (million)	Available seat kilometers (million)
Air France	43490.3	99073.8	131647.6
Alitalia	22244.7	31254.2	43564.5
Austriam	6895.1	14537.5	20386.6
British Airways	34815.4	100425.7	137843.3
Finnair	5672.3	8653.3	13815.2
Iberia	24669.8	41957.6	55926.2
KLM	18719.2	56540.6	72409.6
Lufthansa	44463.3	96616.8	124166.0
Olympic	5105.1	6083.6	9720.3
SAS	20456.5	23020.3	33332.7
TAP	5633.7	12011.5	16836.5

Source: Association of European Airlines. (2004). *Yearbook 2004*. Brussels.

Normally carriers like TAP are either alliance members to gain the advantages of scope, density, and market coverage that this brings, or have a range of code-share agreements on a route basis with other carriers. Although TAP was involved in the European Qualiflyer alliance and has now joined the Star Alliance, more recently it pursued the path of multiple code shares with second tier carriers (e.g., with bmi, Finnair, Iberia, Olympic, and SN Brussels). However, because of its focus on particular regions (both intra-Europe and intercontinental), there tends to be limited network-based competition in many of its intercontinental markets. Indeed, TAP is a near monopolist European carrier for many of its Brazilian

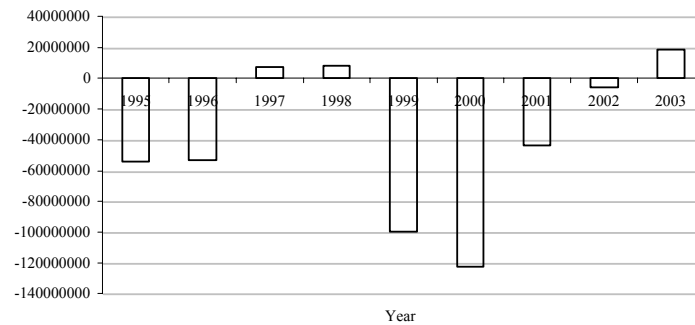
¹² In 2003 TAP served 36 destinations, 7 in Portugal, 15 in the rest of Europe, and 14 beyond Europe. As a benchmark, British Airways serves 153 destinations with 76 beyond Europe.

destinations (which comprise 33 flights a week and contribute about 20% of its revenue). There is much tougher competition on busier continental (although this is to some extent constrained by code-share agreements), and some denser intercontinental routes.

TAP has not traditionally been a highly efficient airline. For example, looking at the total factor productivity of 41 airlines from around the world in 1983, Windle (1991) found that TAP came 38th (and 12th of the 14 European carriers included). In terms of unit costs measure it came 29th. Analysis of 1992-1995 data by Ng and Seabright (2001) shows that whilst the carrier had the third lowest cost for cockpit crew and fifth lowest for cabin crew of the 12 EU carriers studied, its labour productivity in terms of million revenue passenger kilometres per employee was the second lowest, and less than half of that of U.S. carriers which overall outperformed the European airlines.

The recent performance of the carrier has seen a steady rise in patronage (from just over 3 million passengers in 1990 to nearly 5.5 million in 2002). Parallel growth in available seat kilometres in the 1990s led to a fairly static load factor of around 60%. As deregulation has allowed greater fare flexibility and enhanced competition stimulated lower prices, load factors have risen since 2002 to something over 70% (compared to 73.4% for Association of European Airlines carriers as a whole in 2003). In terms of financial results (Figure 1), however, TAP has not done well, although there is some indication of improvement in the last few years.

The interest here is the extent to which TAP has sought to recover more of its costs, and also contain those costs, through manipulation of its route network. This network comprises unregulated intra-European Economic Area routes and ASA regulated intercontinental services. This manipulation offers the potential for the exploitation of economies of density and scope whilst extracting additional consumer surplus from the monopoly elements of the network. An element of fixed cost recovery is thus theoretically possible.

Figure 1. TAP net financial results, 1995-2003

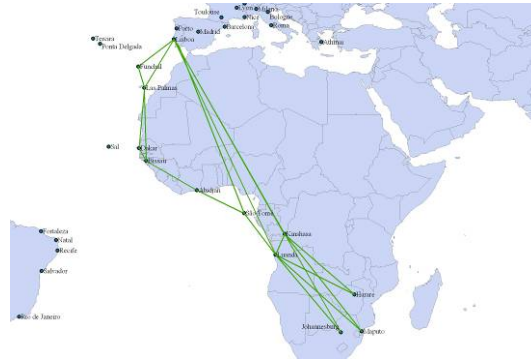
Source: Data was compiled from TAP Annual Reports, 1995-2003.

TAP AIR PORTUGAL'S NETWORK

With significant governmental protection, little competition and guaranteed coverage of financial losses, the nationalized TAP Air Portugal had not traditionally been excessively worried about its efficiency. Its labour productivity, and productivity in general, was low even compared to other state owned European flag carriers. Some of the difficulties were simply due to poor internal management, but one of the problems was route structure.

After 45 years, the network of TAP (see Figures 2a to 2d) represented a piece-meal of routes without any clear perspective or orientation. A decade or so ago, there was limited evidence of flight concentrations in a hub-and-spoke structure as we now understand it. Moreover, non-European routes often involved stopovers, or some very circuitous routings, that reduced cost efficiency and the attractiveness of the services to potential users. The European network involved duplication of several services and in some cases there was a triplication of flights to the same destination from several Portuguese airports. No Portuguese airport had a clearly dominant role as a hub.

Figure 2a. TAP European network in 1990**Figure 2b. TAP South American network in 1990****Figure 2c. TAP North American network in 1990**

Figure 2d. TAP African network in 1990

However, with the onset of European Union liberalisation process in mid-1990s, combined with the beginning of the downturn in the world economic situation, and especially the European situation, from the late 1990s, TAP began to make very significant losses that clearly required some form of major structural adjustment. The government's restructuring grant offered some prospect for change, but was largely used to cover short-term deficits and to expand the already gangly route network. In 1997 the company was still operating with a mixed fleet of Boeing, Airbus, and Lockheed aircraft and thus forgoing the economics of synergy that accompany fleet standardization. Demand was down, and was unlikely even in an economic upturn to be as vibrant as in the mid-1990s. And there was new competition to face in Europe—by 2000 the no-frill carriers were supplying 600,000 seats a year, up from virtually zero five years before, and the trend was irrepressibly upwards. The low cost, no-frill carriers although still predominantly focusing on UK rooted services were expanding their networks across Europe.

The European TAP service network that existed in 2000 (see Figures 3a to 3d) had changed little over the unstructured form of a decade earlier. Elsewhere, TAP had made some changes. The rather volatile South American routes had seen a notable expansion of services, the African network had been increasingly concentration on flights from Lisbon Airport, and the longest haul North American routes had been abandoned. Nevertheless, the networks continued to involve numerous stopovers, routings were often circular, and there remained duplication of flights from different Portuguese cities.

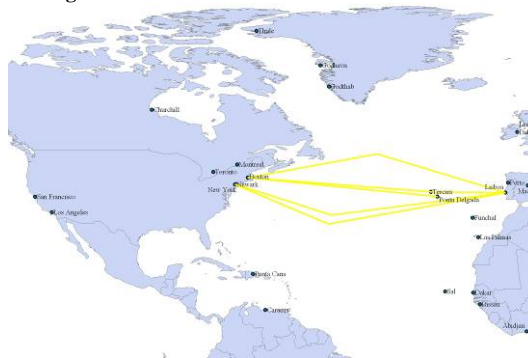
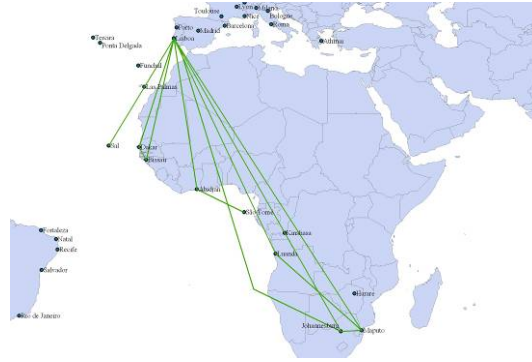
Figure 3a. TAP European network in 2000**Figure 3b. TAP South American network in 2000****Figure 3c. TAP North American network in 2000**

Figure 3d. TAP African network in 2000



In the face of this, and with the reality of EU rules now preventing further explicit government subsidies, the concept of the flag carrier was effectively passé. TAP was forced to radically rethink its philosophy.¹³ Management soon understood that the airline was unable to compete head-on with the major European carriers such as British Airways, Lufthansa, and Air France, because it simply did not enjoy the massive economies of scale and scope they did, nor did TAP have the domestic feeder traffic. Its fleet was also unsuitable to this task. Portugal is also located on the periphery of the EU, far way from the largest markets and the most vibrant economies. Establishing even a medium size, stand-alone hub in these conditions is not viable.

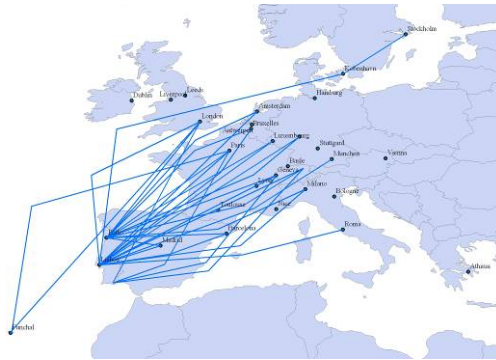
Thus, TAP had to find alternative solutions. Portugal has tended to enjoy good relationships with several former colonies such as Brazil and those in Africa. The bilateral ASA agreements, coupled with the problems that airlines of these countries encountered, effectively gave TAP substantial de facto monopoly power in these intercontinental markets. Many of the routes involved were also unattractive to the larger European airlines because they did not fit conveniently in their network structures and their domestic feed was limited. Long-haul routes also have the advantage that demand tends to be less fare elastic (Gillen, Morrison & Stewart, 2002) and

¹³ The rethink coincided with the appointment of a Brazilian as chief executive officer, Fernando Pinto, that effectively removed the airline from traditional Portugueses political ties and moved it towards commercial management.

they tend to attract a larger number of business class fare paying passengers (Button, 2004).¹⁴

In 2001 (see Figures 4a to 4d) only small changes to the TAP route service structure of a decade earlier were visible, but by 2002 (see Figures 5a to 5d) significant changes were beginning to emerge. The total number of routes offered, together with the number of destinations served, was beginning to fall with indirect and longer routings all but eliminated and replaced by direct ones. Moreover, there was a clear concentration of services on a Lisbon hub and with this came an elimination of duplicated long-haul flights. For example, Porto lost a number of services. These changes, combined with a modest macroeconomic upturn in several of the countries served by TAP, and a range of internal cost cutting measures, brought about a modest upturn in the company's financial performance.

Figure 4a. TAP European network in 2001



¹⁴

Even in cases where there are no restrictive bilateral ASAs the traditional carriers tend to face less threat of competition from low cost carriers partly because it is more difficult to enjoy the high crew and aircraft utilization rates that no-frill airlines seek. This is not to say that low cost operations are absent from deregulated long-haul routes, indeed Laker Airways in the late 1970s may be seen as a pioneering venture in low cost airlines.

Figure 4b. TAP South American network in 2001

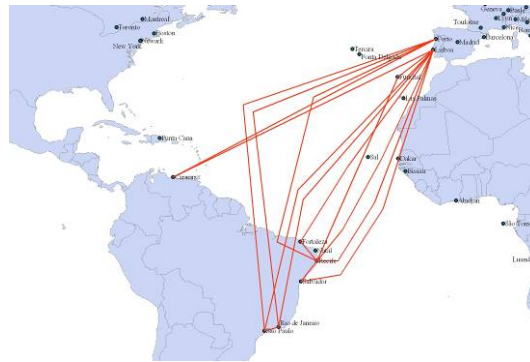


Figure 4c. TAP North American network in 2001



Figure 4d. TAP African network in 2001

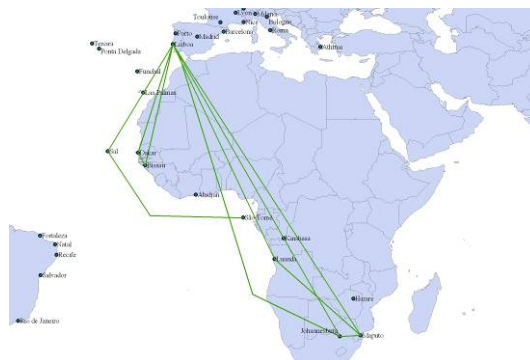


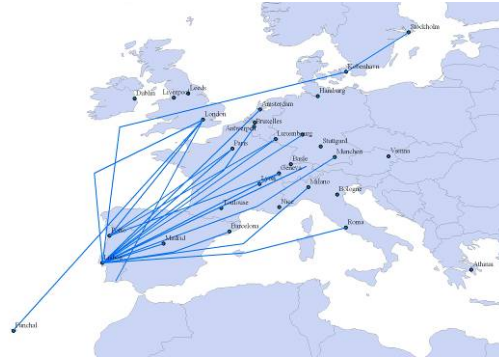
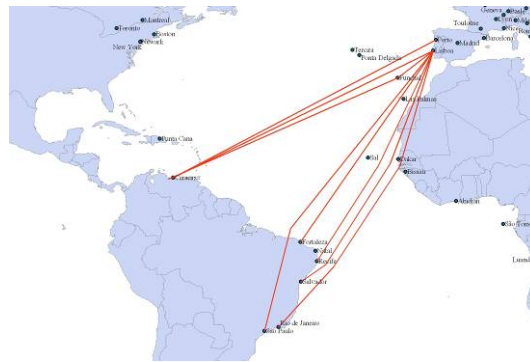
Figure 5a. TAP European network in 2002**Figure 5b. TAP South American network in 2002****Figure 5c. TAP North American network in 2002**

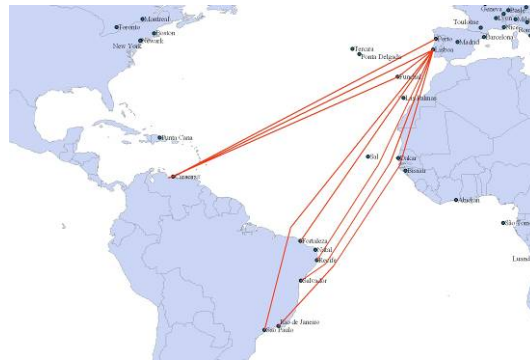
Figure 5d. TAP African network in 2002



The current TAP route service network (see Figures 6a to 6d) is similar to that of 2002. Lisbon Airport is the major hub in the system with a network of European flights (including code shares that are not shown) feeding a range of intercontinental destinations in South American and Africa. At the non-European end of routes, it has begun domestic services in Mozambique to feed its long-haul routes and in 2005 plans to relocate its Africa hub to Angola—it is currently in Johannesburg. The European network has remained dramatically simplified even as some European economies have begun to recover. Costs have also been contained as the airline has moved to standardize its fleet on Airbuses (its last Boeing leaving service in 2002) and to reduce its labour force.

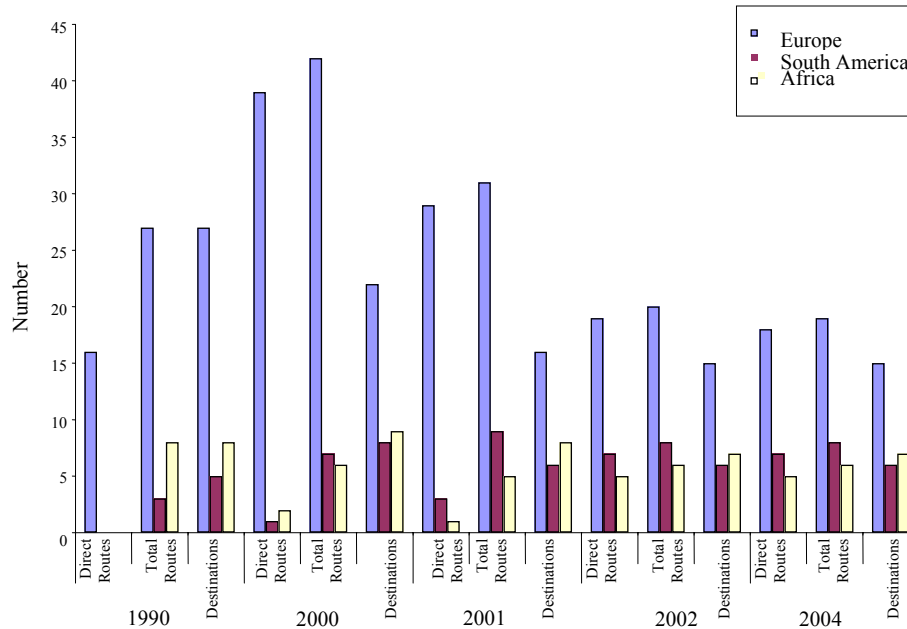
Figure 6a. TAP European network in 2004



Figure 6b. TAP South American network in 2004**Figure 6c. TAP North American network in 2004****Figure 6d. TAP African network in 2004**

The relative concentration on direct services has been pushed furthest in its long-haul markets as can be seen in Figure 7. Basically, TAP changed the structure of its network over a 4-year time span to focus on what it considers to be its profit centres, where it enjoys a degree of monopoly power, and to provide feeder traffic to those centres. Joining the Star Alliance offers the other members of the group complimentary services to South America and Africa and Portuguese feed to their own service networks.

Figure 7. The evolution of the TAP Air Portugal network



Source: Data was compiled from TAP Annual Reports, 1990-2004.

It provides the potential for TAP to feed more traffic from a number of European catchments areas into its South Atlantic and African routes.

CONCLUSIONS

The new institutional environment in the EU has brought about significant changes in the conditions confronting the management of the region's scheduled airlines. Although the change has been phased-in, unlike that which affected U.S. domestic carriers in the late 1970s, the reaction of many of the incumbent flag carriers has often been slow. Inertia has been the

common feature and restructuring has generally been slow and reactive to crises rather than representing a proactive management philosophy. In part this can be explained by the reluctance of some governments to appreciate that a European Single Market entails just that; it means competition, commercialization, and free entry. Those entrenched in the airline industry, both on the management and labour sides, have often lacked vision about what the new conditions entail, and it has been left to newcomers such as Ryanair and easyJet to meet the demands of customers.

The incumbent EU airlines' initial response to the rigors of the market was to emulate their U.S. counterparts that had experienced two decades of competition. Sophisticated yield management regimes were introduced, frequent flyer programs were initiated, existing hub-and-spoke networks were further developed, and alliances were joined. As with their U.S. cousins, however, these measures have not protected all from heavy financial losses and, in some cases, bankruptcy. The importance of network configurations, however, has tended to be overlooked in the literature in this field, but is beginning to be appreciated on both sides of the Atlantic. In Europe, British Airways, for example, has moved towards a focus on long haul activities, and the chairmen of both Delta and United have stated their intent to do the same. These airlines, however, have the advantage of scale and a tradition of commercial management to define their strategies; other carriers often have neither.

TAP has had the particular handicap of 100% state ownership, relatively small size, and a disadvantageous, peripheral-market location. It has thus experienced serious financial problems. Coase's (1946) arguments, in particular on cost recovery in a decreasing average cost, competitive industry now seem difficult to refute in the context of TAP. The only way full costs are likely to be recovered in these circumstances is through ad hoc efforts to minimize fixed costs and to seek some market advantage, however short-lived, wherever possible. The examination of TAP Air Portugal's manipulation of its route structure provides some insights into the way one carrier seems to have bought itself some breathing time. It has focused its energies on longer haul routes where demand tends to be less elastic and competition from no-frill carriers is likely to be less intense. The beautiful thing about markets, however, is that they are never still. Whether the TAP route restructuring offers a one-year respite or one of longer duration is not clear (and, indeed, should not be clear in a market) but certainly, as past experience has shown, good management should already be looking for new strategies now that it is within the Star Alliance to cope with the next crisis.

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